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Herefordſhire ORCHARDS.

1651/2077

Written in an

Epiſtolary ADDRESS

TO

SAMUEL HARTLIB, Eſq;

By *J. B.*

To which is added, The neweſt and beſt Method for Planting and Managing

THE

HOP-GARDEN:

Being a PATTERN for

IRELAND.

DUBLIN:

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SIR,

YOUR induſtrious endeavours for the benefit of all Men, and particularly for the good of this Nation, hath well deſerved the grateful acknowledgement of all good Men, and of my ſelf in ſpecial; for that in my rural retirement I have received ſome Profit, and very much innocent and refreſhing delights in the peruſal of thoſe Treatiſes, which are by your diligent hand communicated to the Publick.

My Education was amongſt Scholars in Academies, where I ſpent many Years in converſing with variety of Books only. A little before our Wars began, I ſpent two Summers in travelling towards the South, with purpoſe to learn to know Men and foreign manners. Since my return, I have been conſtantly imploy'd in a weighty Office, by which I am not diſengaged from the care of our Publick Welfare in the Peace and Proſperity of this Nation; but obliged to be the more ſollicitous and tender in preſerving it, and promoting it. Wherefore, taking notice that this County is reputed the *Orchard* of *England*, and (in the generality of good Husbandry) excelleth many other places; I offer it (as my duty) to give you ſome plain and unpoliſhed account

of

of our *Agriculture* in *Herefordſhire*; which I do the more willingly undertake, for that I do not yet know of any other addreſs is made unto you from this Country. Here I obſerve the wiſeſt and beſt of our Gentry to be very careful in ſetting forward ſuch kind of Husbandry, as beſt agrees with the nature of the Soil where he inhabiteth. From the greateſt Perſons to the pooreſt Cottager, all Habitations are encompaſſed with Orchards and Gardens; in moſt places our Hedges are inriched with Rows of Fruit-Trees, Pears, or Apples, Gennet Moyles, or Crab Trees. Of theſe, the Pears make a weak Drink fit for our *Hindes*, and is generally refuſed by our Gentry as breeding Wind in the Stomack; yet this Drink (till the heat of Summer hath caught it) is moſt pleaſing to the female Palate, having a reliſh of weak Wine mixed with Sugar. If mingled with ſome harſh kind of Apples it makes a happy Mixture; and our obſervant Houſe-keepers know how to mix them to the beſt advantage. Some Pears are apt to incline the Drink to be roapy, and they are known by giving a Wheyiſh Colour to the Liquor. I know a good Huſband that cuts down and deſtroys ſuch Pear-Trees from his Ground, calling them the worſt of Weeds. For others are ſo nice as to refuſe the Drink, and Women love it beſt; as ſweeteſt, till it be roapy. Moſt other kinds of Perry are of a more wateriſh Colour, than Apple-Cyder, and more luſhious. The white Horſe-Pear yields a juice ſomewhat near to the Quality of Cyder; and the Neighbourhood of *Bosbury* is famous for a peculiar Perry, which hath many of the Maſculine Qualities of Cyder. It is as quick, ſtrong, and heady, high-coloured; and retaineth a good vigour two or three Summers, yea in great Veſſels and good Cellars many Years, before it declineth. The Fruit is ſo hard and coarſe, that a Man cannot endure to bite a Morſel of it, and a Pig will refrain it. This *Bosbury* Pear is there called the *Bareland* Pear; and as the Liquor approacheth to Apple Cyder in colour, ſtrength, and excelleth in durance; ſo the bloom cometh forth of a damask Roſe Colour, like Apples, not like other Pears. Our

Gennet

Gennet Moyles are commonly found in Hedges, or in our worſt Soil, moſt commonly in *Irchinfield*, or towards *Wales*, where the Land is ſomewhat dry and ſhallow. This Fruit is nice, and apt to be diſcouraged by blaſts, and we do ordinarily expect a failing of them every other Year, eſpecially in dry Soil; and the Reaſon is apparent and neceſſary. But this Fruit makes the beſt Cyder in my judgment, and ſuch as I do prefer before the much commended Red-ſtreak'd. For this Gennet Moyle, if it be ſuffer'd to ripen upon the Tree, not to be mellow but to be yellowiſh and fragrant, and then to be hoarded in heaps under Trees, a Fornight or three Weeks before you grind them; it is (at a diſtance) the moſt fragrant of all Cyder-Fruit, and gives the Liquor a moſt delicate Perfume. So, for Tarts and Pyes, it is much commended. The Crab is commonly ground for Verjuice, and ſometimes hoarded till near *December*, and then mingled with Cyder, or waſhings of Cyder, to make a Mordicant Cyder, which doth well pleaſe our Day-Labourers; and would ſurely well agree with a *French* Peaſant's Palate. And, for a freſh Wonder, I aſſure you, that we have lately found out, that one of our moſt delicate kinds of Cyder is made of a kind of a Crab, called a *Bromsbery* Crab, thus hoarded; it being much like a Stomach Wine, of a very pleaſing ſharpneſs. This Experiment is not yet known to many of our Country-Men, it being reſerved to few as a novel Myſtery. I have ſometimes try'd the Cyder of Pippins only, well ripen'd, not green Windfals, nor over-ripen'd, and ſomewhat hoarded; and I find it to be a very pleaſant drink, and do conceive it to be the moſt wholſome, and moſt reſtorative of all ſorts of Cyder.

I need not tell you how all our Villages, and generally all our Highways (all our Vales being thick ſet with Rows of Villages) are in the Spring-time ſweeten'd, and beautify'd with the bloomed Trees, which continue their changeable Varieties of Ornament, till (in the end of Autumn) they fill our Garners with pleaſant Fruit, and our Cellars with rich and winy Liquors. Few Cottagers, yea very few of our wealthieſt

Yeomen,

Yeomen, do taſte any other Drink in the Family, except at ſome ſpecial Feſtivals, twice or thrice in the Year, and that for Variety, rather than with choice.

Orchards being the Pride of our Country, and the Scene of my preſent diſcourſe, I will offer unto you two Obſervations upon that Argument, as properly directive to them that can affect the Pleaſure or Profit, which muſt needs be, in many reſpects, very much: As, for that they do not only ſweeten, but alſo purify the ambient Air, (which I conceive to conduce very much to the conſtant Health and long Lives, for which our County hath been always famous) and for that they fence our Habitations and Walks from the ſtroke of Winds and Storms in the Winter, and affords us ſhelter and ſhade in the Heat of Summer; and (if I may acknowledge grateful Trifles) for that they harbour a conſtant Aviary of Sweet Singers, which are here retained without the charge or violence of the *Italian* Wiers.

My firſt Obſervation is this; I conceive that if other Countrys would ſubmit to the ſame Patience and Induſtry, as is uſual amongſt us, they might partake of a great meaſure (at leaſt) of the ſame Bleſſings. As we ſee in our Borderers of *Shropſhire*, *Worceſterſhire*, and *Gloceſterſhire*, and alſo *Somerſetſhire*; and much more in *Kent* and *Eſſex*, &c. My reaſon I take from the wonderful difference of Soils where we abound with rich Orchards. About *Bromyard*, a cold Air, and a ſhallow barren Soil, yet ſtore of Orchards of divers kinds of ſpicey and ſavoury Apples. About *Roſſe* and *Webley*, and towards the *Hay*, a ſhallow, hot, ſandy or ſtony Rye-Land, and expos'd to a changeable Air from the diſguſts of the Black Mountain; yet here and all over *Irchinfield*, and alſo about *Lemſter*, both towards *Keinton*, and towards *Fayremile*, (which make a third difference of ſhallow and ſtarving Land) in all theſe barren Provinces, as good ſtore of undeceiving Orchards, as in the richeſt Vale in the County, even by *Frome* Banks. Only as I fore-noted, where the dryeſt Fruit-Trees are planted in a very hot, ſhallow, and dry Soil, there we muſt be content

content with a full and certain Bleſſing every ſecond Year. This being alſo allowed, that ſome Soil and ſome Air is more agreeable for ſome kind of Fruit, than for other; as for example, *Worceſterſhire* is more proper for Pears and Cherries, than *Herefordſhire*, and *Herefordſhire* more proper for Apples. The reaſon of the difference may in part appear by this following Illuſtration. Where the Turf is very ſhallow, the rough ſtarvy Ground (which in this Country we wrongfully call *Marle*) hinders the tender Root of the Apple-Tree from deſcending deep enough for due Nouriſhment, and fit ſhelter. There (is in the Ground which we eſteem the moſt barren) the Root of the Pear-Tree, having a more piercing vigour, breaks his way through this coarſe *Marle*, as it will alſo cleave through ſome Veins of Rocks and Stones; and under this ſtarvy Ground, it finds a more congenial and richer Nouriſhment; as appears by the ſtore of Fruit, fair and juicy, and alſo by the rind of the Tree, ſmooth, bright-coloured; and free from Moſs. This we alſo note, that in a deep Soil, that is moſt kind for Apples, if the Root of a Pear-Tree deſcends deep into a ſoft clay Ground, the Tree ſpends all his Strength in growing downwards, and becomes leſs ſpacious, and leſs beautiful in the Head, and leſs fruitful. And where ſome Pears find great Difference of Soil, whether grafted or planted by the Stock, there it differeth ſometimes in bulk, and oft times in other Qualities very much. Which ſeemeth to me to explain, why there is ſuch different kinds of Pears in every Country: their Shape and their Nature, and therefore alſo their Names being changed ſo often, and ſo eaſily.

Alſo I have frequently noted, that the richeſt Cyder, and the beſt taſted Apples for the Table, do grow in the Soil that is leſs deep and leſs commended for other uſes, as in a high Ground, or dry Land. And you ſhall find the better taſted Fruit to be more wretched or wrinckled, or ſpotted with Warts, Moles, or Freckles, or of a more Ruſſet or yellow Colour. The other Apple that comes from the richer and lower Ground, is more

more pallid, more plump, but more wateriſh and inſipid. I conclude this obſervation with this direction, that ſince no kind of Soil ſhould wholly diſcourage us, and yet much regard muſt be had of fitting the Fruit to the Soil, therefore we muſt employ our firſt care in the Plantation of a Nurſery, where our experiences may daily increaſe, and the Plants alſo be educated, prepared and fitted for the neighbouring Soil. For what *Columella* ſaith of Vines, I may as truly ſay of Fruit-Trees; *Quod ex longinquo petitur, parum familiariter noſtro ſolo venit, propter quod difficilius convaleſcit alienum exteræ regionis. Optimum eſt ergo eodem agro quo vitem diſpoſiturus es, vel certe vicino, facere ſeminarium; idque multum refert loci natura, &c.* de abor. cap. 1.

My ſecond Obſervation is intended to encourage the Plantation of a Nurſery, by directing the ſure way how to fit the Soil with the greateſt variety of Fruits, and alſo to obtain the ſpeedieſt reward, together with a yearly delight in Novelties, and a like growth in Experiences.

But becauſe I muſt now imbark into ſome Paradoxes, which will not eaſily obtain belief, and leaſt of all amongſt our own Countrymen here in *Herefordſhire*, for ſome reaſons which hereafter will occurr, I will make my entrance with a plain and true Story.

Some years ago I read a ſmall Treatiſe of Orchards and Gardens written by *William Lawſone*, a North-Country Man, printed 1626. In it I found many aſſertions which ſeemed to me ſo ſtrange, ſo contrary to our general Opinion, ſo diſcordant from our daily practice, and ſo incredible, that I could not forbear my ſmiles. I related the particulars to all our beſt Artiſts. Every Man confirmed me, that the Treatiſe was wholly ridiculous, and in no reſpect worthy to be examined and weighed; yet I thought I found many ſigns of Honeſty and Integrity in the Man, a ſound, clear, natural Wit, and all things atteſted and affirmed upon his own Experiences. This raiſed my wonder the more. Amongſt many particulars ſome were as followeth.

1. That

1. That the beſt way to plant an Orchard were to turn the Ground with a Spade in *February*, and to ſet from *February* till *May*, every Month, ſome Kernels of the beſt and ſoundeſt Apples or Pears, *&c.* finger deep, at a Foot diſtance: And by removing the reſt (as time and occaſion ſhould adviſe) to leave the likelieſt Plant to reſide in the natural place unremoved. *Ch. 7. pag. 17.*

2. That the Kernels of every Apple would bring forth Apples of the like kind. *Ch. 7. pag. 18.*

3. That by the Leaves of each ſpiring Plant you might diſtinguiſh each kind of Fruit, whether delicate or harſh, *&c. Ch. 7. pag. 18.*

5. That Apples either grafted, or any time removed, could never be ſound, durable or otherwiſe perfect.

1. The firſt of theſe Aſſertions was rejected, as dilatory, and retarding our Hopes and Reward for half an Age.

2. The ſecond was contradicted by daily experience, which voucheth that many Apple-Kernels will degenerate to Crabs, at leaſt if taken from Apples planted on a Crab-Stock: And that Crab-Kernels are better for a Plantation, than any Apple-Kernels.

3. The third Note was wholly unknown and unobſerved in our Country.

4. The fourth, like an unreaſonable Phantaſy.

5. The fifth, as refuted in all our Orchards every where.

Notwithſtanding theſe oppoſitions, I ſtill retain'd my good opinion of the Man's Honeſty and Experience. Therefore I reſolved to make exact trial with patience. I digged Holes of three Foot breadth in a parcel of ordinary Clay-ground. [Note that the whole Piece of Clay-ground was turn'd ſomewhat deep with the Spade before, that the ſettlings might gather root as well in that vulgar ground, as alſo in the finer Mold] I enquired for ſlips of ſeveral Trees that grew without graffing, and bore ſeveral Fruits of their natural kind: Theſe I placed each kind round about the Verges of the ſeveral Holes. By diligent enquiry the firſt Spring I found fourteen ſeveral ſorts of theſe natural Apples, the Fruit

much differing in taſte, ſhape, and colour; ſome only green and ſowriſh, ſome red ſtreaked, ſome party coloured, and very pleaſant, ſome Table Fruit in Summer, ſome Winter Fruit, ſome Cyder Fruit. Of all theſe the *Kentiſh* Codling was by odds the worſt: Not many better than the *French* Cornel. Having plac'd theſe Slips in the Border of the Hole at a Foot diſtance, I fill'd up the Hole with a fine kind of Garden Mould, carry'd thither in Barrows. This I raiſed not in Tumps, for I foreſaw the inconvenience, that it would be a Harbour for Ants and Piſmires. I kept it alſo at an equal level, that the Rain might not lodge there, and corrupt the young Roots. In the midſt of this fine Mold, in the moſt temperate Weather, I did monthly, from Autumn to the next Spring, ſet Kernels of the fineſt ſort of Apples, with delineating in a Sciograph the ſeveral kinds in ſeveral places. I now find that the Kernels of Apples grafted on Crab-Stocks prove not all Crabs, (nor as I gueſs) altogether of the kind of that Apple, whence the Kernel was taken.

2*dly*. That, as the Mold is finer where they firſt grow, ſo the Fruit ſeemeth more civil, and in coarſe Ground they degenerate towards the Crab. Our Neighbours, for a Nurſery, ſow the droſs or *Muſt* (as we call it) of Apples ground in a Cyder Mill. But I have noted the faireſt Kernels to be bruiſed in the Mill, the remainder being ſmall, and ſown in coarſe Land, become a kind of Crabs.

And that the Kernels of natural Apples do very much propend to the kind of which they are deſcended. This was neglected, and therefore unknown to our Neighbours, who had no need of this Curioſity, as being ſo addicted to graffing, that they take not notice of any natural Apple, except the Gennet Moyle, the Kydoddin, the Sweeting, and the *French* Cornel; which are found in all places. 'Tis ſure that Kernels of the ſame Apples, in a far differing Soil, do produce a different Apple; but (as I ſaid) ſtill with ſome inclination to the Original, if it be the Kernel of an ungrafted Apple. And this may advertize the beſt Seaſon of deſigning variety;

riety; namely, in application of choice Compoſt to the very Kernel, as *Gab. Plat.* preſcribeth *Exp.* 14. *pag.* 210. of the Additions to the excellent Legacy. All other Stories, of pouring Liquors into the Bark, or Bulk of the Tree, are effete and idle Fancies, for nine days wonder.

3*dly*. I find the truth, and that much more might be added to *Lawſon*'s Rules, of diſtinguiſhing the hopefulneſs of the Fruit by the firſt Leaves of the yearling Plant. For a ſhort and dark green Leaf prognoſticateth a crabbed Fruit. With a larger Leaf and thick, but alſo dark green, I have found a good Winter Apple, but the Stock hardy to endure a ſtiff Clay-ground. A ſady willowiſh broad Leaf noteth a flat, inſipid Apple, as the *Kentiſh* Codling, which holds out well againſt Blaſts. A paler green, as the Poppinjay, or *Barberry* Leaf, eſpecially if the Leaf be limber alſo, noteth a delicate Fruit: And the broader the Leaf, the fairer that Fruit. A wrinkled Leaf, neither very dark, nor very light, proves red ſtreak'd, Crab Stocks have reddiſh tops. More particulars will occur by ordinary obſervation.

4*thly*. For the incredible durance of Apple Trees, to a thouſand years, I have upon much experience and many reaſons much abated the preſumption of my cenſure. 'Tis certainly true (as *Gabriel Plat* in the foreſaid place noteth) that if a Man aim at his preſent profit, then graffing is his way: But if he aim at the profit of his Poſterity, then it is beſt not to graft at all. This I add, that moſt ungraffed Apples are apt by the overweight of their Fruit to lean towards the Ground: And I have ſeen many of them quell'd quite to the Ground; where they do renew their ſtrength, and get up again into many Trunks, in a continued order, anſwerable to the old Fable of the Giant *Antæus*. Every aſpiring Trunk of ſome of theſe natural Apples, is much more laſting than any grafted Fruit-tree: And many very aged People have aſſured me, that they have diſcerned no difference either of their growth or decay, in their whole Age from their Childhood. I will tell you upon

my Credit, the Wonders of one Tree of this kind, now growing in *Ocle Pitchard*: The Fruit is not very ſappy, nor pleaſant; the Leaf dark green, and ſtiff. My known Friend (for tryal) made of that Tree five of our large Hogſheads, conſiſting of ſixty four Statute Gallons of Cyder, without the mixture of any Water. It ordinarily yieldeth four Hogſheads, and ſeldom or (as they aſſure me that dwell there) never faileth of three. Yet few of our Countrymen have heard of it, or taken notice of it. This Tree hath had very many upriſings, ſo that I conceive it hath been many 100 s. of years making this Progreſs. My dear Alliance, Mr. *Thomas Taylor*, was Owner of it many Years, and dwelt always in that Pariſh. He is now paſt eighty Years old, of firm ſtrength and freſh memory; yet he affirmeth, that he never could diſcern any change in the Tree. And his Wife for many Years tried to plant the Branches, but was utterly diſcouraged by their ſlow motion. I have for three Years tried ſome Branches, which ſeem only to keep a faint Life, with very little Progreſs. The ground on which this great Tree grows, is Paſture, and ſeems not in the age of Man to have been broken up, or relieved with Compoſt, or freſh Mold; which may ſhew, that it is a very hardy Plant, So much upon the adventure of mine own Credit, which may be examined by a thouſand Witneſſes, to confirm the Credit, or rather Gueſs and Propoſal, of Mr. *Lawſon*.

5thly. For duration of the Fruit-tree, much care muſt be had in the Removal, which ſhould be ſoon after the Leaf is fallen, when the Autumnal Rains have ſoftned the Earth at the Roots, that the Roots be not bruiſed or wounded in the Removal: And then the Tree ſhould keep the ſame Poſition towards the Heavens; the Roots laid alſo in the ſame Poſture, the ſmaller Fibres, or bearded Roots rather cut at the ends than crumpled up; and the Earth in which the Stock is laid, ſomewhat of the ſame kind, but bettered, and mellowed, not with undigeſted Muck, but with fine Mold, and ſhovelings of the Fold. If the Roots are cut or bruiſed, to the ſame proportion the Branches muſt be lopped. In a grafted

Plant

Plant every Bow ſhould be lopped, at the very tops, in Apples and Pears; not in Cherries and Plumbs. In a natural Plant, the Bowes ſhould not at all be lopped, but ſome taken off cloſe to the trunk; that the Root at firſt Replantation be not engaged to maintain too many Suckers. And this muſt be done with ſuch diſcretion, that the top Branches be not too cloſe together; for the natural Plant is apt to grow ſpiry, and thereby fails of fruitfulneſs. Therefore let the reſerved Branches be divided at a convenient roundneſs. The Branches that are cut off, may be ſet, and will grow, but ſlowly. If the top prove ſpiry, or the Fruit unkind, then the due Remedy muſt be in graffing.

Neither is graffing to be uſed only as a Remedy. For it doth moſt certainly improve the kind of the Fruit: Inſomuch that a Graft of the ſame Fruit doth meliorate the Fruit, as is lately much obſerved by our *Welſh* Neighbours, who do graffe the Gennet-Moyle upon the ſame Stock, and thereby obtain a larger Apple, more juicy, and better for all uſes, And ſome triplicate their Graffings (for a curioſity) upon the ſame account.

And it is noted amongſt us, that a Pearmain or any other pleaſant Fruit, either for Cyder, or for the Table, is much ſweeter, if grafted upon the Stock of a Gennet-Moyle, or Kydoddin, than if grafted on a Crab-Stock; though much leſs laſting upon the Stock of the Gennet-Moyle: The Gennet-Moyle being alſo leſs laſting, eſpecially amongſt us, where they are generally planted of large ſettlings, which muſt needs wound them in their very beginnings, and therefore hinder their duration.

Alſo graffing doth much precipitate, or at leaſt expedite the Reward, eſpecially if the Graffe be taken from a Branch that hath ſome Years conſtantly born found Fruit plentifully. Truſt not to one Years trial. *Poteſt enim vel anni proventu, vel aliis de cauſis, etiam naturaliter infœcunda ſemel exuberare: Sed ubi plurimis velut emeritis annorum ſtipendiis fides ſurculo conſtitit, nihil dubitandum eſt de fœcunditate: Nec tamen ultra quadrienni-*

um

um talis extenditur inquiſitio, ſaith *Columella* in a like caſe; *lib.* 3. *c.* 6.

1. Thus we ſee how to haſten the Reward both by graffing, and in the choice of the Graffe.

2. And how to ſweeten the Fruit and better it, both by the choice of a pleaſing Stock, and alſo of a kind Graffe.

3. And how to multiply variety in the diverſity of Compoſt, eſpecially at the firſt Plantation of the Kernel; and I add, with frequent application of pleaſant Infuſions and Liquids, as in which Annis Seeds, Fennel, Roſemary, or other agreeable Aromaticks have been ſteep'd: Yet beware of giving too much Juice to a young Plant; for that may drown it, or make it leſs guſtful: And I never ſaw an Orchard prove, where the Ground was wetted with a Water-Gall, or where the Moiſture did for ſome time lye there, and could not be drained away. Yet near a running Sink of ſoil'd Water, I have ſeen the approaching Trees never fail of their Fruit.

4. And hence we ſee how to plant an Orchard that may probably remain to the World's end. And in this point I have inſinuated ſome part of my Paradoxes, by the way of a Story, and in pretence of defending another againſt the opinion and common practice of my own Countrymen. Mr. *Lawſon's* Book I have not now at hand, neither can I record his judgment verbally, but I think I have ſtuck cloſe to his Senſe.

He addeth that the Fruit of the natural Plant doth grow better and pleaſanter by time, as better at thirty Years growth than at twenty Years growth. This I know not. See *Chap.* 7. *pag.* 18, 19.

Alſo he requireth much more diſtance of the Trees than we obſerve, as ſixty Foot at leaſt. Our common Orchards are at twenty Foot diſtance; our beſt Orchards at thirty at leaſt, by alternative Rows *per quincuncem*. In large Crofts of Arable, reſerved for conſtant tillage, which is a neceſſary help to Fruit Trees, our beſt Husbands graft high, and prefer *Lawſon's* utmoſt diſtance, even ſixty Yards, that the Teams may not annoy the Trees;

Trees; and then the Trees bear a full load of Fruit, and ſpread to the natural Perfection. This I add, that if you would have the Trees grow tall, and ſhadow more in Summer, and keep off Winds better in Winter, and the Fruit the ſweeter, then you ſhould plant the cloſer together, yet never nearer than twenty Foot.

To conclude my Paradoxes; he that is provided of a Nurſery, need not be very nicely provident for the longevity of his Trees. A ſmall Parcel of Ground will furniſh Store for all his Grounds, and for all his Neighbourhood, to play away upon Graffings and novel Experiments. And to incourage this Nurſery, I now ſum up all with my laſt Paradox, that for theſe four laſt Years, whereof two were very dry Summers, I laid the fruitful Sprays of natural Apple Plants in the ground, ſome very ſmall, not two Foot above ground, all thereabout; and from the firſt Summer to this preſent Spring, they never fail'd to bear as thick as Traces of Onions. But it is better for the Plant, if you pull off the young Apples ſoon after they are knitted, the firſt year at leaſt. Some I laid alſo four Yards length under the ground, the Sprays lying ſlope above ground: Theſe grow and bear incredibly. Others I ſlope, and pare away the bordering Turf, that the reflected Sun may give me the early benefit of a dwarf Orchard; and theſe, againſt Midſummer, are as big as a Lady's Fiſt. I preſent them to ſtore of Witneſſes. If I dwelt near *Cheapſide*, I ſhould make my new planted Nurſery as rich as an Orchard. All natural Apples are not of this precocity: The more durable (as I ſaid before) are much more ſullen. Some require a knot for the Root, others not: All three the better for it. To ſome a ſmall ſlice of the Bark is as good. Before *December*, whilſt the Spray grows on the Tree, by the bluntneſs of the Bud you may diſcover what Branch will bear Fruit the next Summer immediately following, if you cut off the Branch, and ſet it before the Buds be ſprouted too far forward, (as you may in *February*, or the beginning of *March*). This (with ſome) will paſs as a Prophecy. A ſore Blaſt or *May* Froſts may deceive you. Of theſe natural Apples there

are not past six or seven Kinds distinguished by proper Names amongst us. I conceive they can never be distinguished, for that every individual always assumes a peculiar Nature from the infinite variety of Compost. In this Nursery, 'tis the same pains, and no charge, to try the Seeds of *Firrs, Pines, Cyprus, Pitch, &c.* which prove better for replantation than in Hot-beds.

Of the Art of grafting either with the Cions, Bud, or Leaf, I shall say nothing, because every Village amongst us yieldeth store of Artists: And many Books shew the Rules; but in these things an Artist can teach more in a Day, than a Book in a Month.

One reason why Fruit do so abound in this Country, is, for that no Man hath of late Years built him a House, but with special regard to the proximity of some Ground fit for an Orchard, which should be of some depth, as is commonly towards the foot of a descending Ground, and frequently with a proclivity towards the South; and the Land not too friable or hollow, but somewhat tough, binding, and tenacious, left the Winds root up the Stocks. And many times Servants when they betake to Marriage, seek out an Acre or two of Ground, which they find fit for Orchards; for this they give a Fine, or double value for Years or Lives; and thereon they build a Cottage, and plant an Orchard, which is all the Wealth they have for themselves, and their Posterity.

For Gardens, we have little encouragement to design more than is for the necessary use of our own Families, except our River *Wye* may be made navigable for transportation. And by defect of transportation, our Store of Cyder is become a Snare to many, who turn God's Blessing into wantonness and drunkenness. The credit of Cyder being of few late Years much advanced in the estimation of our best Gentry, who have sought out the right Method of ripening and hoarding the choicest Fruits, and of finding the right Season of drawing it, and some also of bottling it. But I am confident that much more may be added to the Perfection of it when they

they ſhall alſo apply to it the due ſubtilities of the myſterious Art of Fermentation.

I found it much amended, by putting pure Cyder upon the freſh Lees of a Butt of Sack, newly drawn.

In vines our Gentry have lately contended in a profitable ambition to excel each other: So that the white Muſcadel is vulgar, the purple and black Grape frequent, the Parſly Grape and Frontiniack in many hands.

Wall Nuts belong to our Highway ſides, and are fitteſt for dry and ſtony Grounds. I find them for the dryeſt Ground of the Nurſery a never failing Companion. In *Columella* we may find many excellent Rules how to aſcertain and haſten their Growth, and to mend their quality.

The large Cheſnut being ſuch a maſculine food for luſty Ruſticks, and ſo much uſed at the beſt Tables in *France*, and ſo ſavoury in the condiment of our ſtrongeſt Cyder with ſalt, I much blame our Countrymen, that we have no more uſe of a Food that would ſoon become cheap, common and laſting.

All theſe Nuts and Filberts do accelerate growth, (as I have proved) by the rules of *Columella: In aqua mulſa, nec ninius dulci macerato, ita jucundioris ſaporis fructum, cum adoleverit, præbebit, & interim melius & celerius frondebit, lib. 5. cap.* 10. and again, *de arb.* 22. I cannot tell whether it ſhould not be read, *nec nimis dulci*; but I tryed it in Milk, and alſo in ſtale Urine ſteep'd in Sheeps Dung, with good ſucceſs. He adds for an Improvement, *Et in medulla ſirulæ ſine putamine nucem Græcam vel avellanam abſcondito, & ita adobruito. A worthy Perſon* tryed the Kernels of Cherry-ſtones and Plum-ſtones, having firſt broken and caſt away the Shells, and ſetting them in Summer time, as ſoon as they were ripe; and he aſſureth that they got a Years advantage in celerity.

I do much wonder that ſuch a ſingular honeſt Man as *Gabriel Plat* ſhould write, that it is found by experience, that a Cheſnut in ten or twelve Years will grow into a fair Tree, able to be the Maſter poſt of a fair

Building. And the like of the Wall Nut, *Exp.* 13. *pag.* 269. *Addit.* to the *Legacy*.

I am at the like wonder at honeſt Cap. *Blithes* precedent of ſmall quick-ſet Oaks that at eleven Years growth made ſparrs and ſmall Building-Timber, *Chap.* 25. *p.* 158. *Edit.* 1652.

Our Elm is of ſpeedieſt growth, all Timber, always ſhredded to be the talleſt of *Engliſh* Trees; and found in Rows on our Highways, and at every Cottager's Door, except they be compell'd to give place to Fruit-Trees.

In many Journeys through *Shropſhire*, I have ſcarce ſeen two Elms of the right kind. The cruſt of the Earth there is too ſhallow. But the Root of the Oaks cleaves through the harder Earth, and ſurely finds a Marley ſubſtance for his plentiful ſuſtenance to the full depth of his Stature,

quod quantum vertice ad auras
Ætherias, tantum radice ad Tartara tendit,
Georg. 2. verſ. 191.

All our Hills have ſometimes born Oaks, or few failed, and I conceive moſt are very apt for it. But of late the Iron-Mills have devoured our Glory, and defloured our Groves.

We are generally noted to excel in all kinds of Husbandry; our Ploughs are light, but we liſten after further Directions which come to us through your hands.

The Rye of *Clehanger* and of ſome parts of *Irchinfield* is as good as the Muncorne or Miſcellane of many other Countries, and our Wheat is upon the Ground far richer than I ſaw any in the fair Vale of *Eſome* in *Worceſterſhire* and *Warwickſhire*, as in my Travels, I ſometimes examin'd it in the Company of other more skilful Huſbandmen.

For Paſtures we add Improvements daily, and as a Stranger paſſeth by our Habitations, by our Fences, Orchards, Paſtures, Arable, he may diſtinguiſh a well-order'd Houſekeeper and a Freeholder, from an over-wracked Tenant, and an Unthrift.

This

This is the Country where *Rowland Vaughan* began his Water Works; and I can name you a great number of admirable Contrivers for the publick good.

The Lord *Scudamore* may well begin to us; a rare Example, for the well-ordering of all his Family, a great preſerver of Woods againſt the Day of *England*'s need, maintaining laudible hoſpitality regularly bounded with due ſobriety, and always keeping able Servants to promote the beſt expediences of all kinds of Agriculture. And Sr. *H. L.* hath heartily proſecuted the ſame Encouragements. Our learned Mr. *B. H.* drives on the ſame Deſign, as far as the glances of a moſt ſedulous Employment will permit. Mr. *R.* of *L.* is excellently apt, and conſtantly diligent in the purſuit as well of Delicacies, as Neceſſaries. Mr. *S.* of *W.* hath in few Years raiſed an under Tenement, from 8 l. yearly, and ſo rented, to be well worth 60 l. yearly, and ſo rented, or thereabouts. He never fails in any point of good Husbandry. Mr. *F.* of *B.* hath raiſed his poor Paſtures from the value of 2 s. 6 d. to be better worth than 20 s. yearly. *C. M.* hath metamorphoſed his Wilderneſs to be like the Orchards of *Alcinous*; herein alſo a hearty Patriot. I muſt ceaſe to name Men, ſince in every Village there is ſome excellent Republican.

With one ſad Note I muſt now conclude this diſcourſe. I wiſh this ſore Proverb, *Bona terra, mala gens*, may not belong to us. The moſt High hath filled us with his Bleſſings, but we fail ſo much in returning due Thanks, that we many times turn his Bleſſings into heavy Curſes, and make his liberal Gifts the prevailing cauſe of our haſty ruin. And whereas the rural life ſhould in all reaſon be the moſt humble, and tame, and and innocent; yet daily experience ſheweth, that where any Trade of Manufacture is driven on, there the Word of God bears a Price: Where Trade thrives not, there the Word of God is at the beſt but as a pleaſant Song: If ſometimes they hear it, yet ſeldom they obey it. And all Doors and High-ways are oppreſſed with idle and ſturdy Vagabonds: And it is more eaſy for an honeſt Juſticiary to do the work of *Hercules* in cleanſing the

Augæan

Augæan Stable, than to remedy ſuch a cuſtomary and prevailing Evil. Our freſh Expectation is, that ſome worthy Patriot will break through the Difficulties of an obſtructive People, and force open a way for Trade and Commerce. Let our Prayers and Importunities preſs on all true-hearted Patriots thus to advance the Publick. For this Adventure is, without diſpute, ſure of a Reward in Heaven, and not only free from the envy of Men, but alſo always acknowledged to deſerve everlaſting Monuments of Glory. And thus alſo in the perſon of another (as under a fit Vail of Modeſty) I briefly hint unto you, what eſteem we do truly owe unto your Labours. I pray the Lord to remember your diligence in the great Day of his appearance in Glory.

Your hearty Well-wiſher, and
Obliged Servant in the Lord,

J. B.

May the 3 *d.*
1656.

SIR,

HAving employed one Day upon a long Letter to to you concerning Orchards and the Culture of *Herefordſhire*, and the Meſſenger being not yet gone, I ſhall now add ſomewhat, or at leaſt ſumm up the reſult of my former Diſcourſe.

The Ground for an Orchard ſhould rather incline towards the South than towards the North: Yet no neceſſity of niceneſs in that point. They prove well towards the North. So rather towards the riſing Sun, than towards Weſt. Yet the Weſt Wind is the beſt, and the Weſtern Sun beſt ripening. And the Blaſts commonly come from the full South, and about Noon: Wherefore we pray with the Pſalmiſt, to be delivered from the evil that flieth at Noontide.

Yet

Yet a dilgent obſerver may find that the hurtful Winds are apt to gather into Channels upon the ſurface of the Earth, as the Streams of Water do: And a Man may find by his Eye and Reaſon, and ſee it confirmed by anniverſary experience, that at a Mile's diſtance one point of the Heavens is far more agreeable, or hurtful than another, either by the conduct of Hills and Vales in the Neighbourhood, or at a diſtance, or by Vapours ariſing from Lakes, Rivers or Mooriſh Grounds which by Froſts are turned into Blaſts. For we have confirmed it into a Proverb, that dry Froſts do not blaſt, but moiſt Froſts and Froſts following after Rain do; and dampy Grounds make Froſts that would be dry in other Places, become moiſt in the Neighbourhood. Alſo ſometimes in a very bottom the Air is penn'd ſo cloſe, and the Sun's heat ſo multiplyed by Reflections, that it is apt, to gather the Southern Blaſts (which, as I ſaid, are the more frequent, and more hurtful to the nicer Fruit, and to Hops) as in a Furnace or Oven.

If the Cruſt, or richer Surface of the Earth be near a Foot deep, it is fully enough: And if the Cruſt of the Earth be deeper, yet I have ſeldom ſeen any of our Stocks ſet more than a Foot deep, except they be great Stocks, which ſhould keep their former depth.

If the Ground be equable, that is, in any proclivity relating towards a level, then it is pity to Stock it with natural Plants. The more expedite way were in *October* to ſettle Crab-Stocks at thirty Foot diſtance in the forementioned beſt order, *per quincuncem*: And after three Years, the next following Spring, ſend for an Artiſt to graft them with the beſt Fruit.

The Crab-Stocks ſhould not be above the bigneſs of a Man's Handwriſt: If bigger, 'tis leſs apt to cloſe with the Graft, and then the Rain finds a Hole, to the danger of the Stock. Our uſual Cuſtom was, upon the plain Stock to ſet two or three Grafts, which (for variety) might be different, without any hazard or damage. Of late many do ſlope the Stock for one only Graft, conceiving this the more certain way to unite the Stock, and graff fully and ſpeedily. In a Nurſery,

if

if the Stocks be as ſmall as Twigs, the ſureſt and ſpeedieſt way is by the Joint Graft, where no leſs than eight ſides are engaged, and this is an improvement of the laſt Stamp.

We cannot truſt to any Artiſt, but have need to uſe a true and careful Friend in the choice of Grafts from the fruitful Branch of a ſound and fruitful Tree. And an Error in this Point (beſides the miſtake of the Fruit) may prorogue the reward for five Years or more, which is a ſad loſs. *Collumella*'s former Note is worthy to be remembred in this point.

If the Ground be very unequal, 'tis a great Charge, and a very groſs Vanity to level it. For there is a kind of Beauty, and a ſure refreſhment in a Wilderneſs; at leaſt it is good Soil if appendant to a pleaſant Garden. And it may be better, more kind, and more fruitful, moſt certainly more fit for variety, and for all change of Seaſons by inequality, than by equality. And this is the Ground that is fitteſt for the natural Apple, who is then wronged, maimed, or wounded, when he is hindered from his natural coarſe, or forced into order. Yet I ſhould not plant him in ſuch Bottoms, where the Water cannot paſs away: The deſcent were beſt for his ſituation.

The Apples we commend for Grafts, are the *Stockin Apple*, the *Jellyflower Apple*, the *Well-Apple*, the *Eliot*, the *Queen-Crab*, the *Quince-Apple*, the *Winter-Quining*, the *Harvey*, the *William*, the *Leonard*, the *John-Apple*, the *Snouting*, not forgetting the *Pearmain*, and *Pippin*, and *Leather-Coat*. Theſe and many more that are nameleſs, are for the Table.

For Cyder the Streak'd Muſt is moſt commended; but 'tis but a kind of Shrub or Hedge-Plant, not apt to grow to a large Tree, and ſpending Strength ſo thick and ſo conſtantly, that the Planter commonly ſurvives to ſee the decay of his own Work. There is a white Muſt, much commended for ſtrong luſty Cyder, the Tree long laſting. Another white Muſt hath this Fault; they abide not on the Tree, to be gathered together, but are always dropping one after another.

I need

I need not note ſuch Cautions as may afford choice for all Seaſons, early and late, and in the firſt ſtocking of the Ground to plant Pears and Apples alternately, at leaſt if we have no certainty of the nature of the Ground; and there is a Beauty as well as Profit in variety: and Pears grow long before they take up much room, and for the moſt part begin to be in Perfection, when the grafted Apple is decay'd. Or a Winter Apple, which laſts longer, and grows ſlower, may be alternative to a Cyder Apple.

The Clay-Land binds the Tree faſter from Wind-Strokes, the Sandy Land haſteneth the growth more.

By Rows of Elms every Orchard and Village is generally fenced from the North and North-Eaſt Wind; yet no neceſſity.

For Hops, we make haſte to be the chief Hop-Maſters in *England*; our Country having ſtore of Coppice-Woods, and many provident Men within theſe three Years planting abundance of the faireſt and largeſt ſort of Hops. All about *Bromyard* in a baſe Soil there is great ſtore. At firſt we adventured only upon deep, low, rich and mooriſh Grounds; now we climb up the Hills with wonderful ſucceſs. We find alſo that the Bottoms are apt to gather Heat as an Oven, (as is above ſaid) and that begets Honey-Dews, when the more open Air eſcapes it.

Our Poets new and old, and all beſt Judgments do highly commend the pleaſure of a Grove, Horat. 12. *Epiſt.* 2. *Scriptorum chorus omnis amat Nemus, & fugit urbes.* We do commonly deviſe a ſhadowy Walk from our Gardens through our Orchards (which is the richeſt, ſweeteſt, and moſt embelliſh'd Grove) into our Coppice Woods or Timber Woods. Thus we approach the reſemblance of Paradiſe, which God with his own perfect Hand had appropriated for the delight of his innocent Maſter-piece. If a Gap lyes in the way between our Orchard and Coppice we fill up the vacancy with the artificial help of a Hop-Yard, where a buſy Weed gives the ſhape of a Wood. This muſt content us, till we can gain the Credit of a Vineyard, which as yet

hangs

hangs between hope and fear. The late dry Summers did ſwell us with hopes; the latter fickle Spring and moiſt Autumn did blaſt, or drown our expectation.

Some ſow Acorns, and Aſh-keys, and other Seeds for Woods, in wilde and hilly Grounds. Other count it much better to plant Quick-ſets, which make more haſte, and may be more reducible to the beauty of order.

Before we adventure for Woods upon untryed Ground, 'tis not amiſs to make uſe of Sr. *Hugh Plat*'s Augur. My ſelf having bought a ſmall Tenement, thought it worth the while to ſee the nature of mine own Land for nine Foot depth, which was ſoon done. By that I found where Sand, where Stone, and where Marl of the beſt ſort were near at hands: I found the reaſon why one piece of Arable was more cold and moiſt, and leſs fruitful than another.

We have a belief, that the moſt barren ſurface hath the richeſt entrails, not only of metallick Minerals, but alſo of Stone, yea of Marl, or ſome other rich material. And this is certain, that which we eſteem the richeſt Land, and buy it at the deareſt rate by far, that is in many reſpects the pooreſt Land: As for example, our richeſt Land is eſteemed to be on *Frome* Banks, the Paſture very rich, the Arable a ſtiff Clay bearing the beſt Wheat; yet this Clay is very unkind for Gardens, it does devour much Compoſt. It is a ſlow Ground for Orchards; the Arable is much inclinable to the Mildews: If we have need to turn it into Paſtures, though we have great advantages of Land floods, or other fat Waters, and the Ground ſeem very likely for Paſture, yet it is almoſt as good to give it away, as to go about to turn it into Paſture. I have ſeen that in twenty Years it gathers not a Turf, or Sward. Yea lately, the want of Winter-floods two Years together left the Paſtures as bare, hard, ſtarvy, chapt and cheany, as the baſeſt Land upon the *Welſh* Mountains. And if the Arable be there once out of heart, or miſs of one courſe of plowing, it is coſtly work to recover it.

On the contrary, in many Places of the hot Rye-Land, where the Paſtures have a coarſe Sea-green Blade, or ſhort and poor, and where the Fields refuſe Wheat, Peaſe, and Fitches, there Sheep thrive beſt, and their Dung ſuddenly recovers the Arable, which is light and eaſy for a weak Team: In three or four Years 'tis at the beſt for ſuch Paſture as it proves. The Paſtures quickly improved by fatting Sheep there, that may lye upon it Night and Day. The Land quick for Orchards, or any ſort of Trees, as well the talleſt Elms, as the Aſh; eaſily fitted for Gardens, for Hemp, Flax, Turneps, Parſnips, *&c.* Hence you may judge which of theſe were more worthy to be called the richer Land: If the rich Water-floods did not give the rich Paſtures the advantage on one ſide. And hence you may ſee what prevalency there is in the advantage of Paſture only.

I have ſeldom ſeen Paſtures forced by Compoſt in this Country, as I have ſeen it elſewhere. Only in the Winter we feed our Cattle on the higher Paſtures, and in the hazard of a rot, ſome follow the Directions of *Gabriel Plats*, in putting out their Sheep all Nights; which hath proved a ſafe-guard to the Sheep, and a great help to the Paſture. Other helps of Paſture we do omit, every rill of Water is carefully conducted to the beſt uſe. If it runs from a fat ſtream, Land-flood, or Lime-ſtone, we find benefit in it, if withal we let it paſs over and away, before it exchangeth it's fatneſs in to a cold hunger, which falls out in a very few days. Some Water we find ſo hungry, that we dare not receive it, but at Seaſons of neceſſity. Lime we have ſeldom tryed upon Paſture. Aſhes we find excellent to beget the white and purple Honeyſuckle, if ſifted on the Ground in *February*, till it hath half candyed the Ground, like a Hoar-Froſt. Our beſt *Engliſh* Hay-ſeed is by experience found to be our more natural Friend.

Our Graſiers, which are Butchers, do find this fault in the excellent Paſtures ſtored with Gilt-cups which is a kind of Crowfoot, that it makes the fat of their Beef turn yellow, as if it were of an old Beef.

The Honey-ſuckle and Graſs we ſort for Cows, the ſowrer for the Breed of young Cattle, the harder and ſtronger for labouring Oxen; and if it be rough, and little better than Sheep Paſture, 'tis the better for Horſes, to amend the Breed of them for the Saddle. In an hyperbolical exceſs, for the fuller illuſtration, I may ſay, that a Nag fed upon high Grounds and dry Grounds is, for travel, as much beyond a Nag I bred in the lower Meadows, as a Lion exceedeth a Cow in activity. For a bag to Market, or a Cart, you may breed them in the lower Meadows, and you ſhall ſee them big-limb'd, well truſs'd, and apt to tire themſelves with their own bulk and weight. The other that are bred on dry Ground, are Airy and Sinewy, full of Spirits and Vigour, in ſhape like the *Barbe*: They rid Ground, and gather Courage and delight in their own ſpeed. Thus Colts well choſen, and Sheep well ordered, may be a rich Help to repair the diſtreſſes of dry Paſture.

For Sheep, we are skill'd beyond the Rules of *Gab. Plats*, our Wooll being the fineſt of *England*, and our Sheep ſmall, and not bearing above 16 Ounces ordinarily, (yet I have ſeen our faireſt Weathers bear thirty Ounces of Wooll) being ſmall and nice they are generally houſed by Night, Summer and Winter. And are therefore liable to two kinds of rot: The one is only of the Liver at firſt, and if it be diſcerned, 'tis cured by the Butcher's Knife, without much loſs to the Owner; the other prevails over the whole Body of the Sheep, and makes the Fleſh fit for nothing but Dogs. I know ſome Places, in which there hath not been a rot, in the Memory of any of the Inhabitants; but there they change often, becauſe the Ground is very ſtony, and in two or three Years wears out their Mouths: And nothing preſerves Sheep better than change of Soil. Our common Husbandmen keep their ſmall Flocks at all adventure without much Care or Caution. But for larger Flocks our Shepherds of *Lemſterner* and *Irchinfeld* are moſt incomparably expert.

Whilſt this Letter is under my hand, by a Conference with Mr. *S.* concerning Orchards, I am aſſured, that

upon

upon a long tryal (as in a way of conteſtation) it was found experimentally, that ſome Apples raiſed of Kernels did exceed the beſt that could be found of grafted Apples in delicacy of Taſte.

That he tried to meliorate the *Kentiſh* Codling, by a Graft of the ſame kind, and it proved worſe.

That a near Neighbour made a Hogſhead of Cyder of *Kentiſh* Codlings only: He taſted it this very Week. It had a taſte very differing from all our other Cyder, not bad, nor very excellent. That it looks like Perry, of a wheyiſh Colour.

He alſo gave me at his own Houſe a moſt pleaſant Drink, which I thought to be Cyder, and preferred it before red ſtreak'd Cyder, which was of the beſt, and for tryal, brought out to me and others at the ſame time. This commended Drink was compounded of Crabs never hoarded, but ſhaken from the Tree, and immediately ground together with Perry of that luſhious kind, which at this time of the Year is always wont to be roapy. This Drink was not clear, but had ſome reſemblance of roapy Perry. But he aſſures us, that the Crab does by this Compoſition always preſerve the Perry from being roapy. If ſo (as of all Men I can beſt believe him, who will not break his Word to ſave his Life) this is an excellent Art, at one time to make Crabs, which grow naturally in all wild, dry, and barren Soil, a rich Fruit; and by them alſo to make a rich Benefit of thoſe Pears, which in the language of another good Husband were call'd a cumberſome Weed.

He preſcribeth that the more luſhious the Pear be, the more Crabs be added to it. By the taſte in the Mill, you may fit it, generally more Pears than Crabs. He noteth that theſe Crabs were not of the forementioned *Bromsbury* Crabs, but common Crabs; of which common Crabs he advertiſeth there are two ſorts. The firſt ſoon ripe, and yellowiſh, and fit to be mingled with the Pears that are firſt ripe. And of this kind was the Cyder that he gave to us. The other is a more ſullen Crab, green about the end of Autumn. This agrees with

with its contemporary Pears. Or to make a kind of *Scythian* Wine, fit to quicken the Palate of a sturdy Hinde, they may be laid in Heaps, for a Month's hoarding, and then ground by themselves, or with Winter Apples. We know how welcome to foreign Peasants, and also to our Seamen, a rough Vinegar or Verjuice would be, either to mingle with Pottage, or with Water for Drink. We have not yet felt so much Want in *England*, as were necessary to teach us the use of Crabs, or other general branches of Frugality. The *Bromsbury* Crab, so often mention'd, is far larger than either of the other sort, and in shape like an Apple.

Sir, 'tis time I should now give you rest. In this you may see my hearty desires towards the Improvement and Welfare of our native Country. If we must be hindered of Trade with *Spain*, I wish our *English* Indignation would scorn to feed at their Tables, to drink of their Liquors, or otherwise to borrow or buy of them, or of any of their Confederates, as long as our Native Soil did supply us with Necessaries. I pray God to strengthen us all in a firm Love to his holy Truth, and in a mutual Love to each other, under the Shelter of his everlasting Mercies.

Your Servant in the Lord,

J. B.

Hereford,
May 13. 1656.

An

An Extract of Mr. Hartlib's *Letter dated* September 4. 1656.

He desires that these Letters may be presented to publick view, for an Example to worthy Men in other Countrys to do the like in these, and other parts of Husbandry. That the Latin Passages should be turn'd into the vernaculous Language, and many Expressions altered into more plain and common *English*, that all vulgar Capacities may understand them, &c.

The Answer.

1. That it is now too late to polish any parts of those Letters with such accurateness, as becomes a piece drest for severe Judgments. If it must flie abroad, it must go as it is, all parts alike, in the free Garb of a natural simplicity; written with speed, and with more care of Truth, than of fit Words.

Instead of a Translation of *Columella*'s Sentence, *pag.* 13. *line* 36. I would annex this short *English* Gloss; that which is far fetcht, may have little familiarity with our Soil, and may a long time take it unkindly to be banisht from its native place.

I dare not adventure for an exact Translation, having no other Edition but that of *Hieron. Commeline* 1595, which is so full of Errors that I suspect every Line. It were an excellent Work, if any Man would publish a well corrected Copy of the four *Roman* Husbandmen, they being rare Monuments of Antiquity; the first, namely that of *Cato* the Censor, being almost 2000 years old. Being now destitute of Libraries, if I should undertake it, having no one old Exemplar upon which I should frame my conjecture, at the best success, I should shew more Wit than Honesty. For I hold it a most pernicious presumption, to intrude our own Phansies instead of such great Authorities.

Page 13. *line* 35. The Latine may be untranslated, being but a rational Inference to authorize that which is there said in *English*.

Page 14. *line* 22. *To the World's End.* I use these words in a vulgar sense. For in very truth, and well-grounded Theology, we have no reason to conceive it to be long now, before the World shall be changed or consumed by the last Fire.

Page 14. *line* 36. To explain this *per Quincuncem* to the dullest, we may add these *English* Words; as in a Diaper-Napkin, or in common Glass-Windows, which is the rhombular Figure.

I dare adventure to use no more than the first Letters of some Mens Names, least I have blame for my good meaning. As in this I have merited little, so I expect no better reward; yet you have very much obliged me ever to subscribe,

Yours unfeignedly

J. B.

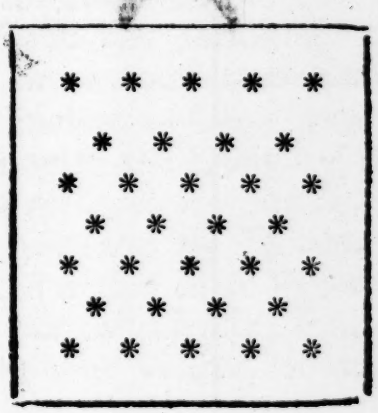
To my very worthy Friend.

FINIS.

ADDENDA.

THAT the invaluable Tract, now added to this Work, intitled *Herefordſhire* ORCHARDS, may be rendered intelligible to the meaneſt Capacity; I ſhall explain what is therein directed, Pages 14, 21, by planting ORCHARDS, in alternative Rows, *per* QUINCUNCEM.

Xenophon thus deſcribeth the gallant Plantation of *Cyrus* at *Sardis*, as render'd by *Cicero*,—— " *Arbores pa-*
" *ri intervallo ſitas, rectos ordines & omnia per pulchre in*
" Quincuncem *directa.* That is, the Rows and Or-
" ders ſo handſomly diſpoſed; or *Five Trees*, ſo ſet to-
" gether, that a regular Angularity, and thorough
" Proſpect, was left on every ſide, owing this Name
" to the *Quintuple Number* of *Trees*," as thus figured, *viz.*



" That

ADDENDA.

" That the ſame was us'd in *Latin* Plantations, is " plainly confirm'd from the commending Pen of *Var-* " *ro*, *Quintilian*, and handſome Deſcription of *Virgil*, " in his 2*d*. GEORGIC *,

Indulge ordinibus, nec ſecius omnis in unguem,
Arboribus poſitis, ſecto via limite quadret.

---

* Vide *The Garden of* Cyrus, *&c. by Sir* Thomas Browne, *of* Norwich, *M.D.*

THE

THE NEW HOP-GARDEN: OR Directions for Planting and Managing *HOPS.*

The *Soil.*

THE propereſt Soil for *Hops*, is, a rich, warm Land, with a Bottom of Loam or Brick-earth; but any good Ground will do, inriching it with old Dung, or the beſt freſh Earth. If your Soil incline to Clay, mix an equal quantity of Sand or Shells with the Dung. If the Land be moorish, cold, or ſowre, burn it; and if too wet, carry off the ſuperfluous Moiſture by Drains. Your Manures ought to be mixed with a little Pigeons Dung or Lime. If your Garden has any Declination, let it be towards the South; and if near Water, it will be of advantage in dry Seaſons.

Shelter. As high Winds are very prejudicial to *Hops*, chuſe your Garden where it is well ſhelter'd by Hills

on all ſides: Where theſe are wanting, make good Quick-ſet Hedges, with a Row or two of Aſh, where the Land is dry; if moiſt, with Abele, Aſpen, or Popler; and you may plant Oſiers on the back of the Ditch. The Weſt and South Winds being moſt frequent and ſtormy, are to be beſt provided againſt.

Culture. If your Ground be rich and deep, plough it well; after which, dig it, and gather and carry away the Stones. If the Soil be poor or ſhallow, it will be neceſſary to trench it two Foot deep.

Planting. When the Ground is laid even by the digging, ſtretch your Line parallel to one of the ſides, and at every ſeven Foot diſtance, place a ſmall Stick or Feather, as Marks where the Hills are to be made; and ſo ſhifting the Line ſeven Foot further, mark out the whole Garden: Or rather, make an equilateral Triangle of three ſtreight Pieces of Wood, each Side being exactly ſeven Foot; lay this down on any part of the Ground, and place a Stick or Feather at each Corner or Angle; then taking it up, place two of the Angles at two of the Sticks, and at the other Angle fix another Stick, and ſo go through, and mark the whole Garden. This is the eaſieſt method of marking the Hills, and beſt for all Plantations, as it gives a greater variety of broad and narrow views thro' the Ranges, and keeping the Plants at equal Diſtances every way, makes the Ground contain one Fifth more than if planted in Squares. Round every Mark dig a Hole a Foot wide, and ſixteen Inches deep: If the Earth be very rich, work it fine with the Spade, and fill the Holes again with it, even to the ſurface of the Ground; if not, fill the Holes with a Compoſt or Mixture, of fine freſh Mould, rotten Dung, and a little Roach Lime, a Layer of each; let it lie ſome Days, and turn it twice or thrice before uſed. Some plant in *October*, but I rather adviſe *March*, or, if the Weather be mild, the latter end of *February*. When you have got good vigorous Sets, about eight or ten Inches long, with three or four Joints or Buds on each Set; take a Stick one Foot long (ſuch as Gar-

A Compoſt.

deners

deners plant Beans with) and plant ſix Sets in each Hole, one in the middle, and the reſt round it, and cloſe the Earth round them with both your Hands; let the tops be even with the ſurface of the Ground, and the Buds upwards, otherwiſe they will die: Cover them three Inches, with fine rich Mould, and take care, both in planting and dreſſing, never to cut the down-ſhooting Root.

You may plant a double Row of Garden-Beans, between each Row of Hills; as well to yield ſome profit the firſt year, as to ſhelter the Bud from the ſcorching Heat of the Sun: After the firſt year, no Weather will hurt the Hills. As oft as you howe the Beans, weed the Hops with your Hand, and throw more fine Earth on them.

In a Month's time, if the Weather be good, they will begin to puſh their Heads out of the Hills. In *May* twiſt the Bind round, and tie it in a looſe Knot: But if they are very ſtrong, ſet a Stick or two to each Hill, ſuch as is uſed to *French* Beans.

Dreſſing. In *October*, which is the time for dreſſing the Hops, let a careful Hand open the Hills, and cut the Bind, a little lower than the top of the Hill; this muſt be done in dry Weather, becauſe the Earth you lay on them ſhould be as fine as Aſhes; the Hills being thus opened, lay three large Shovelfulls of the before mentioned Compoſt, on each of them, and three or four Shovels more of the beſt Earth you can get in the Allies; which will keep out the cold, and be of uſe at the next dreſſing, in *February* or *March*.

Second Year. The ſecond Year, you muſt open the Hills, and dreſs them as above; only, you muſt now cut the Bind within an Inch of the old Roots, and with a ſharp Knife, (and a Whetſtone by you, to keep it ſo) cut the Roots clean off, that are inclining to ſpread outwards. Poles of twelve Foot above Ground, and three Inches Circumference, will be ſufficient this Year.

Third Year. The third Year dreſs as in the ſecond. When the Hops are ſix Inches above Ground, begin to

pole

pole them; they will now, if thriving, require Poles, of ſixteen to twenty Foot long; put three to each Hill, at equal diſtances round it, and wide at the top, inclining a little outwards, leſt they cling together, and hinder the Sun's coming between them. You muſt have an Iron Bar or Pitcher, with a round handle, to make holes, in which ſet your Poles at leaſt a Foot deep, and tread the Earth cloſe with your heels to faſten them well: Put the ſtrongeſt and largeſt Poles to the moſt thriving Hills; but it is better to under, than over-pole, the firſt Year or two; for a Hop never bears well, 'till it has reach'd the top of the Pole, and come down again three or four Foot.

Tying. When the Shoots are three or four Foot above Ground, employ Women to tie the Hop-binds to the Poles; for while young, they are very brittle. Tie two or three of the ſtrongeſt to each Pole, and cut away the reſt; woollen Yarn, or withered Ruſhes, are propereſt for this uſe; they muſt be tied looſe, juſt to guide them up the Poles, for if you bind them hard, they will wither.

Having finiſhed this Work, give your Ground a ſecond digging, and caſt a Spade of fine Mould on each Hill, to nouriſh it, and keep out the Drought. As you dig, cut away all the Roots you find in the Allies, to prevent their drawing Nouriſhment from the Hills.

Tho' it be a general Rule, whenever you weed the Hills, or pare the Allies, to caſt ſome fine Mould on the Hills, yet this admits of an Exception; for when you find the Binds very vigorous, and full of Sap, you muſt forbear giving them any more Earth: For exceſs of Nouriſhment will do them harm; you can at any time add to the Sap, by inriching the Hills, but cannot withdraw it at pleaſure.

Having thus dreſs'd, poled, and twice dug your Hops, let them reſt a while; only take care, with a Joint-ſtool, or ſtanding Ladder, to guide and tie thoſe Binds to the Poles, which you can't reach from the Ground, or are diſordered by windy Weather, which frequently happens.

Watering.

Watering. In very dry Seaſons, either in Spring or Summer, you ought to water your Hills: But it need not be frequently repeated. If you infuſe Pigeon or Sheep's Dung in the Water, it will better nouriſh the Plants.

As the Binds ſeldom run any more in length, after *Midſummer*, ſuch as are not got up to the top of the Poles, ſhould have their tops knipped off, or diverted from the Pole, to make them branch the better.

Shoveling. About *Auguſt*, the Hop will begin to be in the Bell, or Button, then let your Men with ſharp Shovels, pare all the Allies clean from Weeds, and fling as much Earth on the Hills, as will make them as big as a Buſhel, but throw no Weeds on, nor cut any of the Binds with the Shovel. At the ſame time, or rather before, let Women ſtrip the Leaves from the Binds, two or three Foot high, that it may let in the Air, and not draw away the Nouriſhment.

Signs of Ripening. You will know when the Hops are fit to gather, by their changing Colour, and looking browniſh; being eaſily pull'd in pieces; by the Seeds beginning to turn brown, and their coming to a fragrant Smell.

Pulling. Then it will be time to pull them; for which purpoſe, get a Frame of Timber, about nine Foot long, and three or four wide, let it ſtand three or four Foot from the Ground, and on each ſide, faſten on Hooks ſome coarſe Cloth or Sacking, hanging hollow; ſix Men may ſtand round it to pick the Hops off the Poles, which one may pull out of the Ground, and bring to the Pickers, and lay over the Frame; when the Cloth is full, empty it, and the Hops being clean from Stalks and Leaves, 'till you are ready to lay them on the Kiln, ſpread them on ſome clean and cool place, that they may not heat, for that would ſpoil their Colour. They muſt be pick'd in dry Weather: Therefore, if the Dew, or a Shower happen to wet them, let them dry before they are pull'd.

Drying. Any good Malt-kiln will ſerve to dry them, but unleſs it be ſo contrived, as to let no Smoak come

to

to them, you muſt dry with Charcoal only. You may lay them ſix or eight Inches thick on the Hair-cloth, or thicker, if it will bear them. If the Kiln be good, it will dry them in ten or twelve Hours at moſt. Be ſure to lay them very even with a Rake, and up about the Edges, that they may not ſcatter: Keep a moderate but conſtant Heat, and be careful not to dry them too much. You may gueſs when they are fit to turn, by beating them with a Stick; if you find them criſp on the top in all places, and that they jump up when you ſtrike them, you may venture to turn them; which you are to do with a Corn-ſhovel, laying them firſt all on a heap, in the middle of the Kiln, and then ſpreading them even over it as at the firſt: They will generally be fit to turn in eight hours, ſometimes ſooner. If you turn them when they are in a Sweat, they will ſcorch and grow red; therefore ſlacken the Fire, before you begin, and renew it immediately after you have turned them. You muſt likewiſe let the Fire go out when you perceive them to begin to be dry enough, which you will know, by putting a long Stick on them, and ſtirring it about; if they rattle and leap, they are enough.

Then take them off the Kiln, and lay them in a heap, in a cloſe Room, prepared for that purpoſe, and let them lie there for a Fortnight or three Weeks, till the Fire is out of them, and they begin to give; which you will perceive, by running your hand among them: If they handle moiſt or clammy when you ſqueeze them, they are fit to bag.

Bagging. Your Bags muſt be of three-quarters-wide Cloth, good meaſure, three breadths wide, and three Yards and three quarters long; tie one handful of Hops in each of the bottom corners, put a Hoop to the top of the Bag, wide enough for a Man to go into with eaſe: You muſt have a hole in ſome part of the Kiln-houſe, that will be deep, and wide enough, to let the Bag hang clear, without touching either ſide or bottom, by at leaſt a Foot; when it is thus faſtened, caſt in two or three Sieve-fulls of Hops, and let a Man go

in,

in, with a clean pair of Shoes, without Heels, and tread them close; throw in two or three Sieves more, and tread them as before, and so continue till your Bag is full enough to be sewed up, which when you do, tie some Hops in the corners as at the bottom; and keep your Bags in a dry place. A Bag of the above dimensions, will contain two hundred weight of Hops.

You ought to have an Instrument call'd a Dog, for the more easie drawing the Poles out of the Ground; and when the Hops are gathered, you should carefully stack and thatch the Poles to preserve them from the Weather; or if you build a Shed or House in or near your Garden, for keeping the Poles, it would make them last longer, and be very convenient for picking the Hops in, and other purposes.

F I N I S.

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